

Norio SAHASHI*: **Morphological and taxonomical studies on
Ophioglossales in Japan and the adjacent regions (3)**
Identity of *Sceptridium* Lyon in the Izu Islands (1)**

佐橋紀男*: 日本および近隣産ヘナヤスリ目の形態学的分類学的
研究 (3)** 伊豆諸島産オオハナワラビ属の再認識 (1)

Many reports on the flora of Izu Islands have been published by many authors and the most recent flora of the islands was published by Jotani and Ohba (1968). They enumerated three species of the genus *Sceptridium*. While the author has investigated the Botrychiaceae of the Izu Islands since 1972, he found three additional species of *Sceptridium*. In the present paper, he intends to review *Sceptridium* of the Islands. The area treated in this study ranges from Isl. Oshima, ca. 100 km. south of Tokyo to Isl. Aogashima, ca. 350 km. south of Tokyo. Some uninhabited islets are excluded from the study.

The present study is mainly based on the author's collections and field observations. In addition, he has examined the herbarium specimens in the following herbaria: CHIBA (Herbarium of Chiba University, Chiba), KAG, KYO, MAK, TI, TNS, TOFO, TOHO, TUA (Herbarium of Tokyo University of Agriculture, Tokyo), and TUSG (Herbarium of Botanical Garden, Tohoku University, Sendai).

Genus *Sceptridium* Lyon, Bot. Gaz. 40: 457 (1905); Nishida, Journ. Jap. Bot. 27: 275 (1952).

I. Sect. *Sceptridium*; Nishida, Amer. Fern Journ. 50: 130 (1960).

Botrychium sect. *Elongatae* Clausen, Bull. Torrey Club 19: 48 (1938).

1. *Sceptridium atrovirens* Sahashi, sp. nov. (Fig. 1-A; Fig. 2-A, C & D).

Botrychium daucifolium (non Wall.) Nishida, Journ. Jap. Bot. 31: 374 (1956).

B. japonicum (non Underw.) Mizushima, Misc. Rep. Res. 38: 113 (1955).

* School of Pharmaceutical Science, Toho University, Funabashi, Chiba Pref. 274. 東邦大学薬学部.

** Continued from Journ. Jap. Bot. 54: 43-52, 1979.

S. daucifolium (non Lyon) Jotani & Ohba, Sci. Report Yokosuka City Museum 14: 55 (1968).

Species similis *S. japonici* et *S. daucifolii*, a gemmatis, ornamentis sporae spiniformibus et formis laminarum sterilium; sed differt ab ambabus: frondibus atrovirentibus et laevigatis, segmentis ultimis fere elongatis et acuminatis; a postera: stipitibus communibus brevioribus stipitibus lamina fertilium, et paniculis longioribus laminis sterilibus.

Rhizome fleshy, erect, 7-25 mm. long, 4.5-8.0 mm. thick, bud cone-like shape, upper half densely clothed with fine silky hairs, entirely enclosed. Root fleshy, lorate, 7-20 cm. long, 2.1-5.0 mm. thick in 1 cm. from the rhizome, usually 4 xylems in a bundle, some dozen roots from the rhizome. Common stalk (phyllomophore) 3-11 cm. long, 4-6 mm. thick in the middle, sparsely lanuginose. Sterile stalk 4-15 cm. long, blade thick-herbaceous, pentagonal,

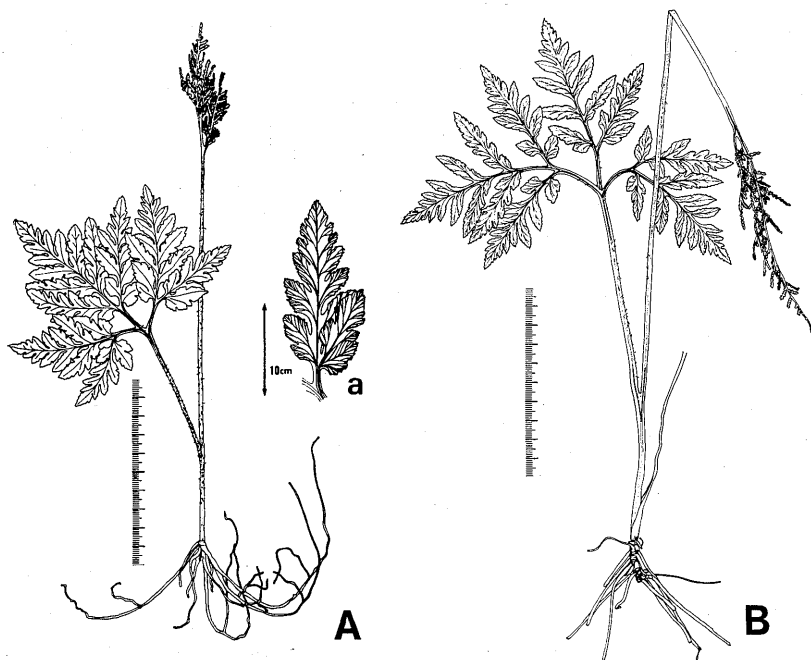


Fig. 1. A: *Sceptribidium atrovirens* Sahashi (Sahashi no. 7611 (367496 in TNS), holotype) a: Basal pinna enlarged. B: *Sceptribidium* × *longistipitatum* Sahashi (Sahashi no. 7719 (366671 in TNS), holotype)

subternately divided, 6-21 cm. long, 7-28 cm. broad, sterile stalk as well as primary and secondary rachis of each division fairly sparsely lanuginose; central division 7-13 cm. long, broadly deltoid, bipinnatifid or at lower portion bipinnate; pinnae alternate or subopposite, lanceolate to oblong or nearly elliptic, upper ones connected by a narrow wing of rachis, middle ones adnate and short-decurrent, the basal 1-2 pairs short-stalked or often sessile, the basal pinna 5-10 cm. long, 1.8-3.8 cm. wide; the lateral divisions resembling the central one, but usually the basal posterior pinnule the largest, with rachis 0.2-1.5 cm. long, obliquely lanceolate to ovate, deeply pinnatifid to bipinnatifid, 3.5-9 cm. long, 1.5-3.5 cm. wide; the penultimate segments oblong to ovate or even obliquely broad-ovate, somewhat acute or obtuse, irregularly crenulate or roughly serrate; costa of ultimate and as well as of penultimate segments strongly decurrent at the base. Fertile stalk 7-28 cm. long, sparsely lanuginose, about equaling the sterile blade including stalk, fruiting spike 4-5 cm. long, bi- to tripinnate, sporangia dark-brown or yellowish-brown when mature, spores normal, 23-35 μ m. in equatorial diameter; chromosome numbers $n=135$.

Nom. Jap. Shichito-hanawarabi, nom. nov.

Range: Endemic in the Izu Islands; Aogashima, Hachijojima, Mikurajima, Miyakejima, Kozushima, Shikinejima, Toshima, and Oshima.

Specimens examined: Terrestrial in forest of *Machilus thunbergii* in volcanic island Aogashima, Izu Islands, alt. ca. 100 m., N. Sahashi no. 7611 (Holotype, 367496 in TNS), N. Sahashi nos. 7612 (367453 in TNS), 7613 (367361 in TNS), 7614 (367406 in TNS), 7615 (366081 in TNS), 7616 (367721 in TNS), 7617 (367676 in TNS), 7618 (367631 in TNS), and 7619 (367309 in TNS), M. Mizushima, Nov. 1954 (TI). T. Yasui, Dec. 1972 (TOFO). N. Sahashi nos. 7656-7664, Nov. 1976 (TOHO). Isl. Hachijojima: S. Kitamura, Apr. 1930 (KYO). Y. Jotani 4003, Dec. 1930 (TUA). T. Yasui, Jan. 1964 (TOFO). H. Ohba 3204, Mar. 1967 (TI). N. Sahashi nos. 7210-7221, Apr. 1972 (TOFO); 7310-7315, Dec. 1973 (TOHO); 7625 (367541 in TNS), 7626, 7628, 7629, Nov. 1976 (TOHO). Isl. Mikurajima: N. Satomi, Oct. 1963 (TI). S. Masuda et al., Jul. 1967 (TI). N. Sahashi nos. 7781 (367174 in TNS), 7782-7784, Aug. 1977 (TOHO). Isl. Miyakejima: K. Hayashi, Sept. 1934 (TUA). S. Kurata, Nov. 1951 (TOFO). Y. Jotani 32386, Aug. 1971 (TUA). N. Sahashi nos. 7414 (367219 in TNS), Jan. 1974; 7720-7730, Aug. 1977 (TOHO). Isl. Kozushima: Y. Jotani 6002,

Jul. 1936 (TUA). H. Ohba 2091, Dec. 1965 (TI). H. Ohba, Jul. 1966 (TUSG). N. Sahashi nos. 7602 (367586 in TNS), 7648-7653, Mar. 1976 (TOHO). Isl. Shikinejima: N. Sahashi nos. 7789 (367084 in TNS), 7790-7791, Jan. 1977 (TOHO); Isl. Toshima: Y. Jotani, Jul. 1933 (TUA). T. Ichikawa, Jul. 1968 (TUA). N. Sahashi nos. 7731-7746, 7785 (367129 in TNS), Dec. 1977 (TOHO). Isl. Oshima: M. Nakamura, Nov. 1933 (CHIBA). M. Mizushima, Aug. 1950 (TI). M. Kurihara & H. Ohba, Oct. 1967 (TI). N. Sahashi nos. 7440-7449, Jan. 1974 (TOHO); 7406 (367264 in TNS), 7452-7460, Dec. 1974 (TOHO); 7665-7676, Feb. 1976 (TOHO); 7710-7718, Jan. 1977 (TOHO); 7955-7974, Jan. 1979 (TOHO); 7975-7990, Mar. 1979 (TOHO).

Common or rare in the shady bamboo thickets or forests of *Camellia japonica* or *Machilus thunbergii* and often in the deciduous forests.

2. ***Sceptridium japonicum*** (Prantl) Lyon, Bot. Gaz. 40: 457 (1905). Nishida, Amer. Fern Journ. 50: 130 (1960). (Fig. 2-C).

Botrychium japonicum Underwood, Bull. Torrey Club 25: 538 (1898).

Range: Isl. Oshima.

Specimens examined: Y. Jotani nos. 3003, Oct. 1932; 3437, Nov. 1936; 31193, Sept. 1969 (TUA). M. Nakamura, Dec. 1933 (CHIBA). Y. Jotani 121010, Nov. 1937 (TNS). M. Mizushima, Aug. 1950 (TI). N. Satomi 2386, Oct. 1957 (MAK). H. Ohba, Oct. 1967 (TI). N. Sahashi nos. 7400-7405, 7450 (367543 in TNS), Jan. 1974 (TOHO); 7408-7411, Dec. 1974 (TOHO); 7603-7610, 7655 (367588 in TNS), Feb. 1976 (TOHO); 7700-7708, Jan. 1977 (TOHO), 7900-7914, Jan. 1979 (TOHO); 7921-7930, Mar. 1979 (TOHO).

Common in the shady bamboo thickets or forest of *Camellia japonica*.

3. ***Sceptridium* × *longistipitatum*** Sahashi, hybr. nov. (Fig. 1-B; Fig. 2-B).

Putative parents: *S. atrovirens* × *S. ternatum*.

Valde similis *S. atrovirentis*, sed differt a se stipitibus laminarum fertilium majoribus; a *S. ternato* laminis crassi-herbaceis, stipitibus laminarum fertilium non marcidis post dispersionem sporarum; sporis abortis.

Rhizome fleshy, erect, as much as 3 cm. long, bud somewhat densely clothed with fine silky hairs. Common stalk 22-55 cm. long, sparsely lanuginose. Sterile stalk 9-17 cm. long, blade thick-herbaceous, subternately divided, 12-23 cm. long, 15-27 cm. broad, with the penultimate segments more or less acute or often obtuse and with somewhat finely prominently serrate as *S. japonicum* or minutely serrate to crenulate margins as *S. ternatum*; fertile

stalk 22-29 cm. long, spike 9-21 cm. long, spores abortive; chromosomes in meiosis irregular.

Nom. Jap. *Ai-izu-hanawarabi*, nom. nov.

Range: Endemic in Isl. Oshima, Izu Islands.

Specimens examined: Terrestrial in forest of *Camellia japonica*, alt. ca. 300 m., N. Sahashi no. 7719 Jan. 1977 (Holotype 366671 in TNS), N. Sahashi nos. 7412 (367523 in TNS), 7422, Dec. 1974 (TOHO); 7622, Nov. 1976 (TOHO); 7915-7916, Jan. 1979 (TOHO); 7931-7933, Mar. 1979 (TOHO).

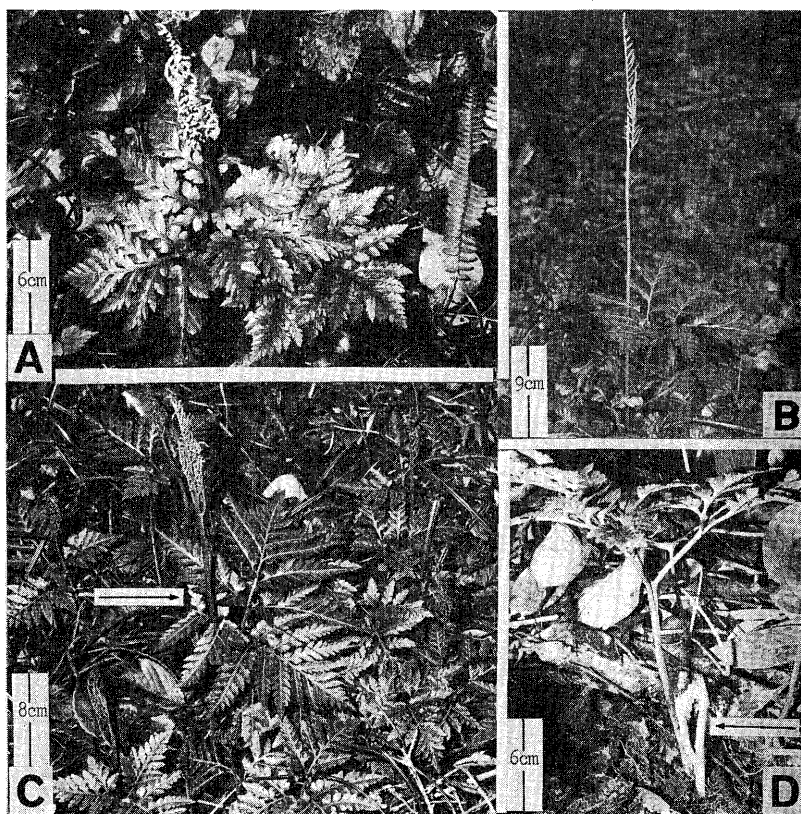


Fig. 2. Habitat of *Sceptridium* in the Izu Islands. A: *S. atrovirens* growing in the atrio of the Isl. Aogashima, type locality. B: *S. x longistipitatum* (type) growing under the *Camellia japonica* forest in Isl. Oshima. C: *S. japonicum* (a larger plant showed by arrow) and *S. atrovirens* (smaller plants) growing shady bamboo thickets in Isl. Oshima. D: *S. atrovirens* in Isl. Miyakejima, the bud (arrow) is already out in the middle of August.

Very rare in the shady forest of *Camellia japonica* or on the leaf mold in the deciduous forests.

II. Sect. Multifida (Clausen) Nishida, Amer. Fern Journ. 50: 130 (1960).
Botrychium sect. Multifidae Clausen, Bull. Torrey Club 19: 26 (1938).

4. ***Sceptridium nipponicum*** (Makino) Houlb, Preslia 45: 277 (1973). Nakaike, Ohwi Fl. Jap. 247 (1978).

Botrychium nipponicum Makino, Journ. Jap. Bot. 1: 5 (1916).

S. ternatum (Thunb.) Lyon var. *nipponicum* (Makino) Nishida, Journ. Jap. Bot. 34: 137 (1959).

B. japonicum (non Und.) H. Ito, Journ. Jap. Bot. 49: 361 (1974).

Range: Isls. Oshima and Toshima (new record).

Specimens examined: Isl. Oshima: M. Mizushima, Dec. 1950 (TI). N. Satomi, Oct. 1957 (KYO). N. Sahashi nos. 7451, Dec. 1974 (TOHO); 7627 (367604 in TNS), 7640-7645, Feb. 1976 (TOHO); 7770-7775, Jan. 1977 (TOHO); 7945-7948, Jan. 1979 (TOHO). Isl. Toshima: N. Sahashi nos. 7776-7779, 7788 (366797 in TNS), Dec. 1977 (TOHO).

More or less rarely on sandy soil in bamboo thickets or on the floor of *Camellia japonica* forest.

5. ***Sceptridium ternatum*** (Thunb.) Lyon, Bot. Gaz. 40: 458 (1905).

Botrychium ternatum (Thunb.) Swartz, Schrad. Journ. 2: 111 (1800).

S. ternatum (Thunb.) Lyon var. *ternatum*: Nishida, Amer. Fern Journ. 50: 131 (1960).

Range: Isls. Aogashima, Hachijojima, Mikurajima, Miyakejima, Kozushima, Niijima, Toshima, and Oshima.

Specimens examined: Isl. Aogashima: M. Mizushima, Nov. 1954 (TI). T. Yasui, Dec. 1972 (TOFO). N. Sahashi nos. 7636-7637, 7691 (367515 in TNS), Dec. 1976 (TOHO). Isl. Hachijojima: H. Tobe 28324, Oct. 1959 (TUA). T. Yasui, Jan. 1964 (TOFO). H. Ohba 3398, Mar. 1967 (TI). N. Sahashi nos. 7301-7302, Dec. 1973 (TOHO); 7638, Dec. 1976 (TOHO). Isl. Mikurajima: M. Takahashi, Oct. 1932 (TI). Isl. Miyakejima: K. Hayashi 5060, Sept. 1934 (TUA). S. Kurata, Nov. 1951 (TOFO). I. Enomoto, Nov. 1968 (TI). N. Sahashi nos. 7425-7428, Jan. 1974 (TOHO). Isl. Kozushima: H. Ohba, Dec. 1965 (TUA). N. Sahashi nos. 7634-7635, Mar. 1976 (TOHO). Isl. Niijima: Y. Jotani 7001, Nov. 1932 (TUA). N. Sahashi nos. 7750 (367012 in TNS), 7751-7759, Jan. 1977 (TOHO). Isl. Toshima: N. Sahashi nos. 7765-7769, Dec.

1977 (TOHO). Isl. Oshima: T. Makino, 1920 (MAK). Y. Jotani 3004, Oct. 1932 (TUA). Y. Jotani 121012, Sept. 1935 (TNS). M. Mizushima, Sept. 1950 (TI). N. Sahashi nos. 7429-7431, Jan. 1974 (TOHO); 7433-7437, 7461 (367039 in TNS), Dec. 1974 (TOHO); 7630-7633, Feb. 1976 (TOHO); 7760-7764, Jan. 1977 (TOHO); 7935-7937, Jan. 1979 (TOHO); 7938-7944; Mar. 1979 (TOHO).

Common or rare on sandy soil in shades or on forest floor of *Camellia japonica*.
(To be continued)

□神田 淳: 写真集 野生ランのかお 173 pp. 1979. 誠文堂新光社, 東京. ¥2,800. 本誌で既に紹介された大型本日本の野生ランの著者による。75図版の中, 原色62葉, 他は白黒。1葉を除いてすべて花の接写であって, ランの花を素材とした造型美をねらっているようである。この種の出版物が, 書店の趣味園芸の部にうず高く積み上げられているのを見ると, 日本の植物愛好家のレベルもここまで来たかと, いささかの感慨がある。前著と比較すると似た写真の拡大があるのに気が付くが, 全く同じものはない。聞く所によると, 1個体または個体群に関して, 数時間の努力が払われている由。著者の経済的犠牲なしにはよいものが出版されない日本の出版事情は考えさせられる。接写ばかりであるので, 読者はランの種の全貌をつかむことはできないであろう。ある種のランは稀少である故に, この写真は植物学者にもよい研究材料を提供できるかも知れない。各々の写真のデータは, 日時および府県単位のデータしか与えられていない。小笠原島のものも, 東京都となっているたぐいである。前著では生育地の高度が記してあった。この高度データすらも, 濫獲者を利したという。恐るべきことである。写真であるから, その個体の真景を写したものに違いがないが, ある種では, その花型が平均的なものからずれている心配もある。例えばコウロギラン。学名は誰の責任によったのか, 記していない。これは少し不満。(津山 尚)

□徳川宗賢(編): 日本の方言地図 (中公新書 533) 250 pp. 1979. 中央公論社, 東京. ¥420. 文部省国立国語研究所が行なった全国的な言語調査の成果が『日本語地図』(全6巻, 1966~74)として出版されている。この調査に関与された方々のうちの5氏(5氏)が, その300面の地図の中から50面を選んで略図化し, 解説した書物である。単に日本全国の方言状況を手軽に見渡せるというだけでなく, 方言の分布, 物とことば, ことばの誕生と変化, 文献国語史と方言, 標準語の地理的背景, などの問題点について多くの示唆を得ることができる。植物に関係のあることばとしては, カボチャ, サツマイモ, ジャガイモ, イモの意味, トウモロコシ, とげ, トウガラシ, ウルチ, ドクダミがある。(伊藤 洋)